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Comments on Two Species of Red-backed Voles, Genus

***Clethrionomys*, from Korea and Manchuria**

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In studying collections of mammals from the Korean and Manchurian regions, we find that some previous students of Asian mammals seem to have overlooked the differences between two distinct species of red-backed voles, *Clethrionomys rufocanus* and *Clethrionomys rutilus*. J. A. Allen and R. C. Andrews (1913: 430) reported as "*Craseomys regulus*" 37 red-backed voles collected by Andrews at several localities in extreme northeastern Korea. On reexamination of this series, we find that it contains specimens of both species. Similarly, A. B. Howell (1929: 51) listed as "*Clethrionomys rufocanus regulus*" specimens from Imienpo and Sungari River, Manchuria, among which we also find both species.

The series collected by Andrews, originally all in the American Museum of Natural History, has been scattered by exchange into at least four other museums, but we have been able nevertheless to see 35 of 37 specimens originally listed. Among these we find 23 *C. rufocanus* and 12 *C. rutilus*. The former of these species is represented by the following specimens; tentatively referred to *Clethrionomys rufocanus arsenjevi* Dukelski, 1928: Nonsatong, 1 (AM NH 34029) ; 137₂ mi. s.w. Nonsatong, 7 (AMNH 34023, 34030, 34035, 34038-40; BM 13.5.27.55) ; 18 mi. s.w. Nonsatong, 1 (AMNH 34036) ; 43 mi. s.w. Nonsatong, 1 (AMNH 34037) ; Pochong, 4 (AMNH 34016-8; BM 13.5.27.56) ; Potaidon, 9 (AMNH 34007, 34009, 34011, 34015;

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BM 13.5.27.53-54; MCZ 15792; USNM 197976-7) . Of the second species, *Clethrionomys rutilus*, 12 specimens tentatively referred to *Clethrionomys rutilus hintoni* Vinogradov, 1936, are as follows: 13 1/2 mi. s.w. Nonsatong, 7 (AMNH 34024, 34031-2, 34034, 34041, 34043 ; MCZ 15293) ; 18 mi. s.w. Nonsatong, 3 (AMNH 34025, 34027, 34042) ; 43 mi. s.w. Nonsatong, 2 (AMNH 34022, 34026) . Allen and Andrews (*op. cit.*: 431) wrote of red-backed voles obtained in the vicinity of Nonsatong, "A large series was . . . trapped some little distance within the edge of the forest. . . . They were caught about old logs and tree stumps and often near the banks of small streams." These statements may apply equally well to both *rufocanus* and *utilus* because both species are represented from all save one of the localities in the vicinity of Nonsatong.

A. B. Howell (*loc. cit.*) , reporting on specimens collected by A. de C. Sowerby at Manchurian localities, listed 23 from Imienpo and 23 more from two collecting stations along the Sungari River. We have seen 21 of the specimens from the vicinity of Imienpo, of which 20 are *C. rufocanus*, tentatively referred to *C. r. arsenjevi* (USNM 199643-51, 199653, 201255, 201258-66) , and one is *C. rutilus*, tentatively referred to *C. r. hintoni* (USNM 201256) . Of the 23 specimens from "Sungari River," we now find only 20, from two distinct localities. Fourteen (USNM 197820-8, 197831-5) from Sungari River, 60 mi. s. w. Kirin, 500 ft., are *C. rufocanus arsenjevi*, whereas six (USNM 201249-54, 201256) from the north bank of the Sungari River, 120 mi. n.e. Sansing, 400 ft., are *C. rutilus hintoni*. Sowerby (1923: 164), although he did not list exact localities, was referring to the same material and probably confused *C. rufocanus* and *C. rutilus* under the name *Craseomys regulus*.

The two species are more readily distinguished by cranial than by external characters. The skull of *C. rutilus* is easily separated from that of *C. rufocanus* by its narrower shape, smaller auditory bullae, smaller teeth (both incisor and molariform) , and shorter molariform tooth-rows (less than 5.5 in *utilus*, more than 6.0 in *rufocanus*). Separating specimens on the basis of external characters, however, is much more difficult. In our material we note that the tail of *utilus* is more pilose than that of *rufocanus*, and more strikingly bicolored in winter pelage. The body pelages of the two species are similar although we note a tendency for *utilus* to be brighter ruf us on the crown and back, producing a sharper contrast to the grayish-ochraceous sides, and

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